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CLAIMS

*A*

5 ~~1. Peptides consisting of 16 to 55 amino acid residues, said~~  
peptide comprising at least one of the amino acid  
sequences LVCYYTSWS (SEQ ID NO:60), FLCTHIIYS (SEQ ID  
NO:61), IIYSFANIS (SEQ ID NO:62), LKTLLSVGG (SEQ ID  
NO:63), FIKSVPPFL (SEQ ID NO:64), FDGLDLAWL (SEQ ID NO:  
10 65), LYPGRSDKQ (SEQ ID NO:66), YDIAKISQH (SEQ ID NO:67),  
LDFISIMTY (SEQ ID NO:68), FISIMTYDF (SEQ ID NO:69),  
FRGQEDASP (SEQ ID NO:70), YAVGYMLRL (SEQ ID NO:71),  
MLRLGAPAS (SEQ ID NO:72), LAYYEICDF (SEQ ID NO:73),  
LRGATVHRT (SEQ ID NO:74), YLKDRQLAG (SEQ ID NO:75),  
LAGAMVWAL (SEQ ID NO:76), VWALDLDLDF (SEQ ID NO:77) or  
~~LDLDDDFQGS (SEQ ID NO:78).~~

*A peptide having*

*Sub C1*

15 ~~2. Peptide consisting of 16 to 55 amino acid residues, said~~  
peptide comprising at least one of the amino acid  
sequences YKLVCYYTSWSQYREG (SEQ ID NO:1), YTSWSQYREGDGSCFP  
(SEQ ID NO:2), LDRFLCTHIIYSFANI (SEQ ID NO:5),  
THIIYSFANISNDHID (SEQ ID NO:6), PNLKTLLSVGGWNFGS (SEQ ID  
20 NO:12), NTQSRRTFIKSVPPFL (SEQ ID NO:16), TFIKSVPPFLRTHGFD  
(SEQ ID NO:17), PPFLRTHGFDGLDLAW (SEQ ID NO:18),  
HGFDGLDLAWLYPGRR (SEQ ID NO:19), DLAWLYPGRRDKQHFT (SEQ ID  
NO:20), TIDSSYDIAKISQHLD (SEQ ID NO:28), DIAKISQHLD FISIMT  
(SEQ ID NO:29), QHLD FISIMTYDFHGA (SEQ ID NO:30),  
25 SPLFRGQEDASPDRFS (SEQ ID NO:34), DYAVGYMLRLGAPASK (SEQ ID  
NO:37), MLRLGAPASKLVMGIP (SEQ ID NO:38), PASKLVMGIPTFGRSF  
(SEQ ID NO:39), GTLAYYEICDFLRGAT (SEQ ID NO:46),  
EICDFLRGATVHRTL (SEQ ID NO:47), RGATVHRTL GQVQPYA (SEQ ID  
NO:48), VKSKVQYLKDRQLAGA (SEQ ID NO:53), YLKDRQLAGAMVWALD  
30 (SEQ ID NO:54), LAGAMVWALDLDLDFQGS (SEQ ID NO:55),

A

WALDLDDFQGSFCGQD (SEQ ID NO:56) ~~or~~ <sup>and</sup> DFQGSFCGQDLRFPLT (SEQ ID NO:57).

A The peptide

3. ~~Peptide~~ according to claim 1 or 2, said peptide comprising at least one of the amino acid sequences YKLVCIYTSWSQYREG (SEQ ID NO:1), YTSWSQYREGDGSCFP (SEQ ID NO:2), LDRFLCTHIIYSFANI (SEQ ID NO:5), THIIYSFANISNDHID (SEQ ID NO:6), PNLKTLLSVGGWNFGS (SEQ ID NO:12), QHLDFISIMTYDFHGA (SEQ ID NO:30), SPLFRGQEDASPDERS (SEQ ID NO:34), DYAVGYMLRLGAPASK (SEQ ID NO:37), MLRLGAPASKLVMGIP (SEQ ID NO:38), YLKDRQLAGAMVWALD (SEQ ID NO:54) <sup>and</sup> ~~or~~ LAGAMVWALDLDDFQG (SEQ ID NO:55).

A The peptide

4. ~~Peptide~~ according to any of claims 1 to 3, said peptide comprising at least one of the amino acid sequences YTSWSQYREGDGSCFP (SEQ ID NO:2), SPLFRGQEDASPDERS (SEQ ID NO:34), MLRLGAPASKLVMGIP (SEQ ID NO:38), YLKDRQLAGAMVWALD (SEQ ID NO:54) <sup>and</sup> ~~or~~ LAGAMVWALDLDDFQG (SEQ ID NO:55).

5. ~~Hexadecapeptide~~ according to claim 1 to 4, said hexadecapeptide consisting of one of the amino acid sequences YKLVCIYTSWSQYREG (SEQ ID NO:1) YTSWSQYREGDGSCFP (SEQ ID NO:2), LDRFLCTHIIYSFANI (SEQ ID NO:5), THIIYSFANISNDHID (SEQ ID NO:6), PNLKTLLSVGGWNFGS (SEQ ID NO:12), QHLDFISIMTYDFHGA (SEQ ID NO:30), SPLFRGQEDASPDERS (SEQ ID NO:34), DYAVGYMLRLGAPASK (SEQ ID NO:37), MLRLGAPASKLVMGIP (SEQ ID NO:38), YLKDRQLAGAMVWALD (SEQ ID NO:54) ~~or~~ LAGAMVWALDLDDFQG (SEQ ID NO:55).

6. ~~Peptide according to any of the claims 1 to 5 for use as a medical substance.~~

~~7. Pharmaceutical composition comprising one or more peptides according to any of the claims 1 to 5, and a pharmaceutical acceptable carrier.~~

~~8. A diagnostic method for the detection of activated autoreactive T cells comprising the following steps: a) isolation of the peripheral blood mononuclear cells (PBMC) from a blood sample of an individual, b) culture of said PBMC under suitable conditions, c) incubation of said PBMC culture in the presence of one or more peptides according to any of the claims 1 to 5, and d) detection of a response of T cells, for example a proliferative response, indicating the presence of activated autoreactive T cells in the individual.~~

~~9. Testkit, for the detection of activated autoreactive T cells, said test kit comprising one or more peptides according to any of the claims 1 to 5.~~